

Title (en)

High-strength cold rolled steel sheet having excellent formability and plated steel sheet

Title (de)

Hochfestes und kaltgewalztes stahlblech mit hervorragender verformbarkeit und plattiertes stahlblech

Title (fr)

Tôle en acier à haute résistance ayant une excellente aptitude à l'usinage et tôle en acier plaquée

Publication

EP 1589126 A1 20051026 (EN)

Application

EP 05008773 A 20050421

Priority

JP 2004126916 A 20040422

Abstract (en)

To provide a high-strength cold rolled steel sheet that has well-balanced tensile strength and elongation as well as well-balanced tensile strength and stretch-flangeability, and a plated steel sheet manufactured by plating the steel sheet. <??>The high-strength cold rolled steel sheet contains: 0.10 to 0.28% of C, 1.0 to 2.0% of Si, 1.0 to 3.0% of Mn, and 0.03 to 0.10% of Nb in terms of % by mass, wherein the content of Al is controlled to 0.5 or less, the content of P is controlled to 0.15% or less, and the content of S is controlled to 0.02% or less, and wherein residual austenite accounts for 5 to 20%, bainitic ferrite accounts for 50% or more, and polygonal ferrite accounts for 30% or less (containing 0%), of the entire structure, and wherein a mean number of residual austenite blocks is 20 or more as determined when the random area (15 μ m x 15 μ m) is observed by EBSP (electron back scatter diffraction pattern).

IPC 1-7

C22C 38/12; **C21D 8/02**

IPC 8 full level

C21D 8/02 (2006.01); **C22C 38/12** (2006.01)

CPC (source: EP US)

C22C 38/02 (2013.01 - EP US); **C22C 38/04** (2013.01 - EP US); **C22C 38/12** (2013.01 - EP US)

Citation (search report)

- [A] EP 1382702 A1 20040121 - KOBEL STEEL LTD [JP]
- [X] SUGIMOTO K ET AL: "RETAINED AUSTENITE CHARACTERISTICS AND STRETCH-FLANGEABILITY OF HIGH-STRENGTH LOW-ALLOY TRIP TYPE BAINITIC SHEET STEELS", ISI INTERNATIONAL, IRON AND STEEL INSTITUTE OF JAPAN, TOKYO, JP, vol. 42, no. 4, 2002, pages 450 - 455, XP001182012, ISSN: 0915-1559
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